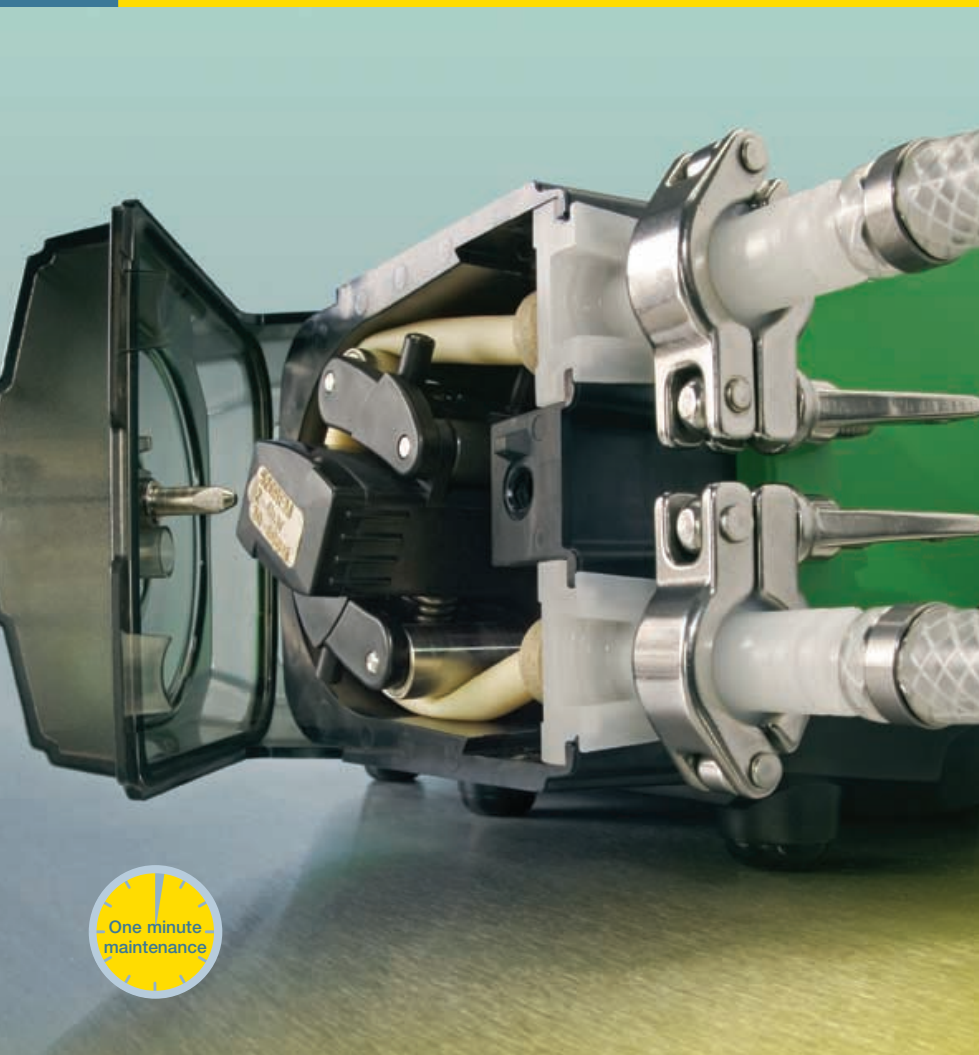
FIFTY YEARS 1956-2006 THE LEADER

WATSON MARLOW Bredel PUMPS

520 PUMPS - SANITARY

NEW High Pressure LoadSure® Validated Pumping



LoadSure®: perfect process pumping

Cased pumps for functionality, power and control

More on drive choices: back page

Accurate, programmed dispensing (520Di)

Repeatable performance

Colour-coded LoadSure® elements fit into position for simple, **error-free tube loading:** optimum performance and tube life every time.

Simplicity

Using the patented LoadSure® D-connectors and easy-grip clutched rotor, the element can be changed in under one minute: **simplicity itself, no special skills required.**

Laser-etch traceability

Laser-etched element lot number allows tracing of all wetted parts back to raw materials: vital for **sanitary process validation.**

Secure connection

Standard 3/4in sanitary connectors in PVDF link the pump to your process securely: **world-standard connectivity** for universal application.

The pump for high-pressure performance

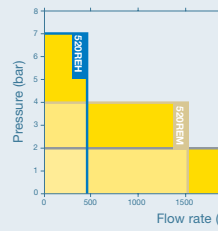
The new 520 LoadSure® 7 bar (100 psi) sanitary pump

Sanitary process users now have the functionality of the best-selling 520 pumps with pressure capability.
The new 520 LoadSure® pump offers flows of 3,500 ml/min at 2 bar (30 psi) to 450 ml/min at 7 bar (100 psi). Reliable, accurate and easy to use, the perfect sanitary pump covers a wide range of applications:

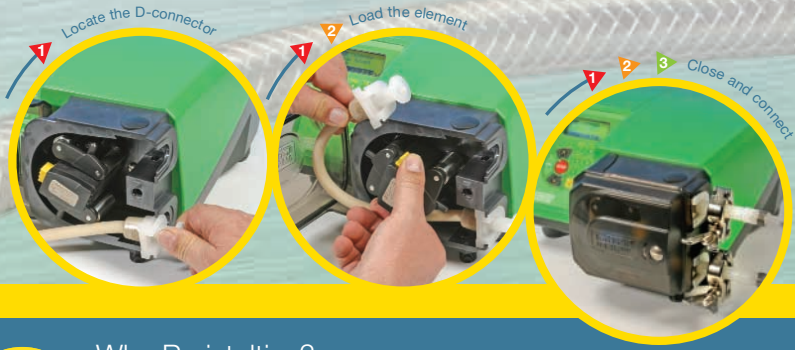
- Low shear feed for ultrafiltration and diafiltration
- Chromatography
- Transfer of viscous media, creams and gels
- High-pressure spray coating of tablets and cereals

Three pressure ranges for sanitary applications, with precise metering and accurate dispensing

520RE performance



One-minute maintenance:



Why Peristaltics?

Compared with other positive displacement pumps, peristaltic pumps win on every count. They handle difficult fluids, abrasives and suspended solids with ease, and provide precision dosing and metering. Cleaning and maintenance are quick and easy. They self-prime, can run dry and have no valves or seals to leak, corrode or clog, and the duty fluid is totally contained within the tube – so no contamination. That's why Watson-Marlow Bredel pumps outperform piston, progressive cavity, lobe and gear pumps.

We *engineer* our winning performance – we don't just turn up the speed. 60% fewer occlusions than our competitors for the same flow means 2½ times the tube life.

- Pumps, pumpheads and tubing last longer.
- There's less downtime, fewer failures – and less maintenance.
- In the unlikely event of a problem, next-day delivery keeps your production rolling.
- Our products are recognised for quality, reliability and performance, backed by a three-year guarantee.

So the best pump really does cost less. Call us for the proof.

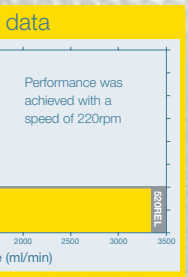
It all adds up to – *Value for life*

…hygienic, versatile and easy to use

Assured validation

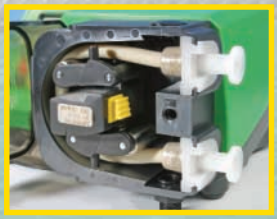
Validating a sanitary process is made easy with the 520 LoadSure® elements. All element wetted parts are USP Class VI and ISO 10993 certified with a laser-etched lot number. 520 LoadSure® elements are supplied with a certificate of conformity and a validation pack is available upon request.

- **USP Class VI validated**
- **Laser-etched**
- **Certificate of conformity**



7 bar with all the advantages

Watson-Marlow Bredel peristaltic pumps with LoadSure® elements are simple. With only one wetted component, the 520 LoadSure® pump is easy to install and operate; with no impellers, vanes or valves, it handles delicate fluids without damage or degradation – even fragile cell cultures. A new, autoclavable, sterile element eliminates cross-contamination, which can occur with other pump types. Downtime is minimal and running costs are low, keeping productivity high.



Pumphead quality

The 520RE pumphead is constructed of PPS (polyphenylene sulphide), a high-performance engineering plastic resistant to chemical attack. Spring-loaded roller arms and large, low-friction 316 stainless steel rollers provide gentle, high-flow pumping for shear-sensitive fluids. The impact-resistant guard is sealed to contain spillages, while the optional float-switch leak detector guarantees process security.

- **Safe**
- **Convenient**
- **Controlled**

We have what industry wants

Pharmaceuticals and Biotechnology

Low shear with zero contamination for aseptic and sterile environments.

Accurate dispensing of expensive products, extending validation periods.

Food and beverage

Accurate metering of additives and flavours assuring consistent product quality.

Cosmetics

Metering, transfer and dispensing of viscous fluids: versatility.

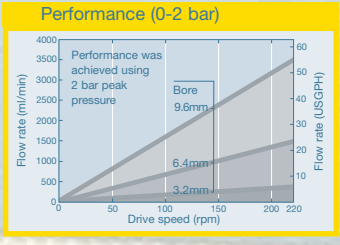
Three pressure ranges

520REL pumphead for up to 2 bar (30 psi) pressure

Typical applications include:

- Spray head feed of granulating fluid to mixer for tablets
- Dispensing of perfume into vials

Elements available in: Bioprene® TL, Pumpsil®, Chem-Sure® and Sta-Pure®

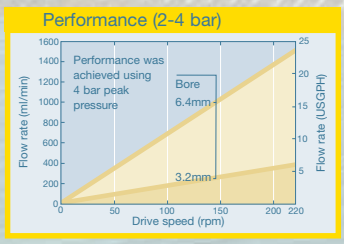


520REM pumphead for up to 4 bar (60 psi) pressure

Typical applications include:

- Filtration
- Chromatography

Elements available in: Bioprene® TM and Sta-Pure®

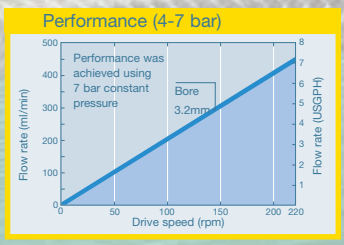


520REH pumphead for up to 7 bar (100 psi) pressure

Typical applications include:

- High-pressure sanitising of food packaging with hydrogen peroxide

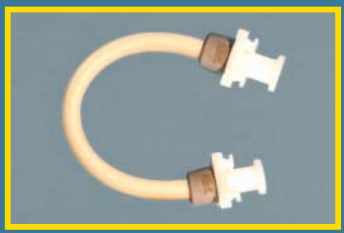
Elements available in: Bioprene® TH and Sta-Pure®



Assured performance from LoadSure® elements

LoadSure® elements are available in three sizes and four materials, with a range of performance characteristics for many applications – but all share features designed to work at their best in demanding sanitary processes.

World-standard 3/4in sanitary connectors in PVDF complete an assembly which welcomes autoclaving and steam-in-place procedures for cGMP. There are no metallic components, cutting the risk of chloride attack.



Drive options

HB0225

AUKETT BROCKLISS GUY

IP66 IP31

IP31

520S, 520U and 520Du cased drives

- Manual speed control with flow calibration
- 2200:1 speed control for 0.1% speed accuracy
- Single or dual analogue inputs and analogue output
- 24V logic remote control
- RS232 serial communication

IP66/NEMA 4X

520SN, 520UN and 520DuN cased drives

The same functionality plus

- IP66/NEMA 4X high pressure washdown enclosure
- Volt-free relay output
- Large connector terminals for easy wiring, every function clearly marked
- RS485 serial communication

520Di Dispensing cased pumps

- Accurate dispensing to ±0.5%
- Calibration by weight or volume
- Stores 50 dispensing programs with file name
- 3500:1 speed control to 0.1% speed accuracy
- Output batch records for cGMP
- IP66 NEMA 4X: RS485 control
  IP31: RS232 control

The information contained in this document is believed to be correct, but Watson-Marlow Bredel accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

WARNING *These products are not designed for use in, and should not be used for, patient connected applications.*

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Call +44 (0) 1326 370 370 for further information on the 520 pump range including technical data sheets.

Or log on to our web site: *www.watson-marlow.co.uk* to view details of our complete peristaltic pump range.

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